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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,291	01/22/2002	David Silagy	ATOCM-244	4767

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT PAPER NUMBER

1773

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

10/051,291

Applicant(s)

SILAGY ET AL.

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 35 and 36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-34 and 37-39 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I in Paper No. 7 is acknowledged. The traversal is on the ground(s) that since the method claims are directed to methods of making the product of elected claim 1, the search required for Group I will encompass that required of Group II. Therefore, no serious burden is imposed by examining all the claims. This is not found persuasive because the inventions have acquired a separate status in the art as was shown by their different classification (Group I in class 428 and Group II in class 156). That the inventions have acquired a separate status in the art constitutes a *prima facie* showing of a serious burden on the Examiner. See MPEP § 803. The applicants' request for rejoinder of the method claims upon allowance of the product claims has been noted.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 35 and 36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

### ***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. The phrase "0 to 10 to 40%" renders claim 39 indefinite because it is unclear whether this is intended to mean 10-40% or 0-40%.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-6, 8-13, 15, 17-20, 22-34, and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roeber et al. (U.S. Patent 5,858,492) in view of Fukushi et al. (U.S. Patent 5,658,670).

Roeber et al. teach a composite material comprising: (I) a layer of polyvinylidene fluoride, (II) a layer comprising a polyamide, (III) a layer of a coupling agent having reactive groups, and (IV) a layer comprising a polyolefin (column 2, lines 1-13). Layer (I) corresponds to instant layer (A1), layer (II) corresponds to instant layer (B2), and layer (III) corresponds to instant layer (B3). In addition to the polyvinylidene fluoride, layer (I) can also contain polymers

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based on polyvinylidene fluoride (column 2, lines 23-25). Suitable polyamides include 6-polyamide, 12-polyamide, and 6,6-polyamide (column 2, lines 30-42). Suitable coupling agents include a maleic anhydride modified polyethylene, a maleic anhydride modified copolymer of ethylene and propylene (i.e. a polypropylene grafted with the anhydride) (column 8, line 53-column 9, line 8). The coupling agent material may also contain impact-modifying rubbers (column 5, lines 4-6). The composite may be formed by coextrusion (column 1, lines 58-59). The composite may also contain customary additives (column 5, lines 34-40). In the embodiments of Examples 6-8, layer (I) has a thickness of 100-200  $\mu\text{m}$ , layer (III) has a thickness of 100  $\mu\text{m}$ , and layer (IV) has a thickness of 600-700  $\mu\text{m}$  (Table 3).

Roeber et al. do not teach the presence of an ink layer on the outside of their composite. However, since the composite is designed for storing or transporting fuels, fluids, water, etc. (column 7, lines 21-34), it would be obvious to one skilled in the art to print on the external surface of the composite as a means of indicating the contents of the tank, supply line, etc. In this case, the printed layer would read on layer (A2) while the layer of polyvinylidene fluoride (I) would read on layer (B1), thus meeting the limitations of claim 12. Alternatively, the print layer and polyvinylidene fluoride layer (I) read on layers (A11) and (A12) of claim 2.

Regarding claim 4, the limitations of this claim are met because the claim further limits optional polymers (A112) and (B112) but does not require that polymers (A112) and (B112) be present.

Regarding claim 27, the limitations of this claim are met because the claim further limits optional polymer (A112) but does not require that polymer (A112) be present.

Regarding claim 8 and 38, the maleic anhydride modified polymer of propylene reads on the recited blend since the "blend" may be 100% of the second component.

Regarding claim 39, the limitations of this claim are taken to be met because the amount of polyethylene or ethylene copolymer in the blend may be 0%.

The (IV) layer is a polyolefin, such as polypropylene (column 4, lines 61-62). This layer reads on the polyolefin layer (B4) of claim 9 and 13. Furthermore, since layer (B4) is an optional layer, it also reads on the limitations of claims 10 and 11 with the (IV) layer acting as the substrate.

Regarding claim 28, the composite, since it is formed by co-extruding pressing preformed layers together at an elevated temperature (see column 9, lines 20-37), will intrinsically be anisotropic as a result of the internal stresses imposed on the material by the manufacturing process.

Regarding claim 37, Roeber discloses an embodiment where additional layers are disposed on layer (IV) opposite layers (I), (II), and (III) (see arrangement No. 3 in Table 1). These addition layers read on the substrate of instant claim 37.

Roeber et al. do not teach that the polyamide of layer (II) has amine end groups.

Fukushi et al. teach a method for improving the adhesion between a layer comprising a fluoropolymer, such as polyvinylidene fluoride, and a layer comprising a non-fluorinated polymer, such as polyamide (column 1, lines 13-19). The method comprises mixing a di- or polyamine into the non-fluorinated polymer layer prior to bringing the two layers together (column 2, lines 40-65).

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One of ordinary skill in the art would be motivated to add a di- or polyamine to the polyamide layer (II) of Roeber et al. to improve the adhesion of this layer to polyvinylidene fluoride layer (I).

Polyamides are formed through the condensation reaction of amino-acids or diacids and diamines. In either case, the end groups of polyamides are either unreacted amine groups or unreacted acid groups. A di- or polyamine mixed into a polyamide will be expected to react with any unreacted acid groups. Therefore, the resulting polyamide will have amine end groups either from the end groups of the original reactants or as a result of one amine in the di- or polyamine reacting with the unreacted acid groups.

Therefore, the inventions of claims 1-6, 8-13, 15, 17-20, 22-34, and 37-39 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roeber et al. (U.S. Patent 5,858,492) in view of Fukushi et al. (U.S. Patent 5,658,670) as applied to claim 20 above, and further in view of the Encyclopedia of Polymer Science and Engineering (Volume 1: Additives).

Roeber et al. taken in view of Fukushi et al. teach all the limitations of claim 21, as outlined above, except for the presence of an antioxidant or UV absorber. However, Roeber et al. explicitly teach that customary additives may be added to the compositions of the layers (column 5, lines 34-40).

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The Encyclopedia of Polymer Science and Engineering discloses that antioxidants are known additives to be incorporated into polymer systems to reduce deterioration related to autoxidation (page 472).

One of ordinary skill in the art would be motivated to add antioxidants to composite material of Roeber et al. to reduce deterioration related to autoxidation of the resulting material.

Therefore, the invention of claim 21 would have been obvious to one of ordinary skill in the art at the time the invention was made.

### ***Double Patenting***

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1, 3-11, 16, 18, 19, 25, and 39 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-11, and 13 of copending Application No. 09/769,739 in view of Sempio et al. (U.S. Patent 5,180,634).



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Claims 1, 3-11, and 13 of copending Application No. 09/769,739 teach all the limitations of instant claims 1, 3-11, 16, 18, 19, 25, and 39 except for specifying that the generic protective layer is polyvinylidene fluoride and/or polymethyl methacrylate.

Sempio et al. teach a protective layer comprising a blend of polyvinylidene fluoride and polymethyl methacrylate as protective layers that have high thermo-mechanical characteristics (column 1, lines 44-549).

One of ordinary skill in the art would be motivated to use the protective layer of Sempio et al. as the protective layer in copending Application No. 09/769,739 to yield a multilayer film having improved thermo-mechanical characteristics.

Regarding product-by-process claims 18 and 19, when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claim in a product-by-process claim, the burden is on the applicant to present evidence from which the examiner could reasonably conclude that the claimed product differs in kind from those of the prior art. *In re Brown*, 459 F. 2d 531, 173 USPQ 685 (CCPA 1972); *In re Fessman*, 489 F. 2d 742, 180 USPQ 324 (CCPA 1974). This burden is NOT discharged solely because the product was derived from a process not known to the prior art. *In re Fessman*, 489 F. 2d 742, 180 USPQ 324 (CCPA 1974). Furthermore, the determination of patentability for a product-by-process claim is based on the product itself and not on the method of production. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985) and MPEP § 2113. In this case, the thermoforming multilayer film of copending Application No. 09/769,739 appears to be the same as that of the instant

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invention since it possesses all the same material properties. Therefore, the burden is on the applicant to conclusively demonstrate that the product of product-by-process claims 18 and 19 differs from that of copending Application No. 09/769,739.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. However, it should be noted that Application No. 09/769,739 has been allowed.

***Allowable Subject Matter***

12. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter.

The invention of claim 14 is directed to a thermoforming multilayer film as claimed wherein the film comprises a layer (A2), and therefore also a layer (B1) since when (A2) is present it is placed next to layer (B1), in addition to layers (A11) and (A12) in place of layer (A1). That is, the thermoforming multilayer film of claim 14 comprises, successively: layer (A11), layer (A12), ink layer (A2), layer (B1), layer (B2), layer (B3), and optional layer (B4).

Roeber et al. represent the closest prior art. However, Roeber et al. do not teach or fairly suggest the 6 or 7 layer film as recited in claim 14.

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***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (703) 305-0503.

The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for non after-final correspondences and (703) 872-9311 for after-final correspondences.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



**Ramsey Zacharia**  
**Primary Examiner**  
**Tech Center 1700**